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| 09/509,571 | 06/14/2000 | MITSUHIKO FUKABORI | 425-763PCT | 7631 |

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EXAMINER

LEUNG, JENNIFER A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1764

DATE MAILED: 01/15/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/509,571

Applicant(s)

FUKABORI ET AL.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings.

Specification

3. The abstract of the disclosure is objected to because of the use of legal phraseology ("wherein"; line 9) and the use of multiple paragraphs. Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities:
 - On page 4, lines 5-6, it is unclear as to what is intended by the dimensions/units indicated by "φ50 x H200 mm to φ100 x H50mm".
 - On page 8, lines 8-10, "between the inner surface of the inflator 1 charged in the processing furnace 2 and the furnace wall 4a of the processing furnace 2." should be changed to -- between the inner surface of the furnace wall 4a of the processing furnace 2 and the inflator charged in the processing furnace 2. -- for proper reference to the drawings.

Appropriate correction is required.

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5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claim 1 is objected to because of the following informalities:

- In line 4, “recover” should be changed to -- recovering -- for proper grammatical form.
- In line 8, “the furnace wall” should be changed to -- the wall of the processing furnace -- for consistency in claim terminology.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear as to where the body of the claim begins. Furthermore, the phrase “adapted to” (line 1) is considered vague and indefinite, as it has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. See also claim 4, line 2. Furthermore, it is unclear as to the structural relationship of “the inflator” (lines 3, 7) and “a metal case” (lines 4-5)

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to the other elements of the apparatus. Furthermore, “the inflator” (line 7) lacks proper positive antecedent basis, since an inflator is merely recited in the intended use clause of lines 1-5.

With respect to claim 2, it is unclear as to the structural relationship of “a burner” (line 2) to the other elements of the apparatus. Likewise, “an air supplier” (lines 2-3) and “an exhaust gas circulator” (line 3).

With respect to claim 3, the language of the claim is directed to a method limitation which renders the claim vague and indefinite as it is unclear as to what structural elements the applicants are attempting to recite by lines 2-5, since “the timing of charge” is not considered an element of the apparatus. Furthermore, “the timing of charge” (line 2), “charged inflators” (line 3) and “peak points of furnace pressure” (line 4) lack proper positive antecedent basis.

With respect to claim 4, it is unclear as to where the body of the claim begins. Furthermore, “charged inflators” (line 7) and “peak points of furnace pressure” (lines 7-8) lack proper positive antecedent basis.

The claims are generally narrative, indefinite and appear to be a literal translation into English from a foreign document, thus rendering the claims difficult to search. It is suggested that the claims be rewritten in order to conform to current U.S. practice.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Allerton, III et al. (U.S. 5,294,244).

With respect to claim 1, Allerton, III et al. (FIG. 3; column 3, lines 33-64) discloses an inflator processing apparatus comprising a metal partition wall (i.e. steel plate **130**) provided between an inner surface of a wall of a processing furnace **108** and the inflator **10**.

With respect to claim 2, Allerton, III et al. (FIG. 3; column 3, lines 40-64) further discloses an incinerator (i.e. heating unit **118**) provided with a burner (i.e. natural gas burner) and an air supplier or/and an exhaust gas circulator (i.e. compressed air) connected with the processing furnace **108**.

Instant claims 1-2 read structurally on the apparatus of Allerton, III et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. (EP 0 677 336) in view of Allerton, III et al. (U.S. 5,294,244).

With respect to claim 1, Nakasato et al. (page 3, lines 32-51) disclose an inflator processing apparatus (i.e. heating furnace; page 3, lines 36-37) comprising a partition wall (i.e. baffles; page 3, lines 49-51) provided between an inner surface of a wall of a processing furnace and the inflator. Although Nakasato et al. are silent as to the partition wall being of metal, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select metal for the partition wall material, since the use of metal for furnace partition walls is known in the art, as evidenced by Allerton, III et al. (steel plate deflector **130**; column 3, lines 33-64).

With respect to claim 2, Nakasato et al. further disclose heating may be carried out in a furnace wherein the inflator is contacted with hot gases or a flame (page 8, claim 6). Although Nakasato et al. do not specifically cite an incinerator provided with a burner and an air supplier or/and an exhaust gas circulator, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide an incinerator comprising a burner and an air supplier or/and an exhaust gas circulator to the modified apparatus of Nakasato et al., since such apparatuses are inherently capable of producing hot gases or a flame, and they are conventionally known in the art as furnace heating means. As evidence of conventionality, Allerton, III et al. teach a furnace **108** for processing an inflator **10**, wherein the furnace is heated by an incinerator

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(i.e. heating unit **118**) that operates on a prescribed mixture of natural gas and compressed air, thereby functioning as a natural gas burner (column 4, lines 40-59).

With respect to claim 3, no further structural limitations are recited and therefore the modified apparatus of Nakasato et al. meets the claim. In any event, Nakasato et al. further disclose feeding the inflators to the furnace continuously and individually, activating the inflators one at a time in the sequence in which they are fed, in order to prevent massive generation of gases and to allow for greater control over furnace operation, i.e. temperature, pressure and residence times (page 3, lines 36-44). Intrinsically, the apparatus is capable judging the timing of charge of the inflators.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. (EP 0 677 336) in view of Mullarkey (U.S. 3,793,101).

Nakasato et al. disclose a method of processing an inflator comprising the step of heating the inflator to a temperature not lower than an operating temperature of the chemical (i.e. a temperature of about 150 °C - 450 °C to ignite the ingredients of the inflator to cause complete combustion; page 3, lines 32-35). Nakasato et al. further disclose timing the charge of inflators into an inflator processing apparatus such that the inflators are continuously and individually fed and activated one at a time in the sequence in which they are fed, in order to prevent massive generation of gas (page 3, lines 40-43). Nakasato et al. further disclose such continuous mode of operation allows control over furnace operation, such as pressure and residence time (page 3, lines 43-44). Although Nakasato et al. do not expressly disclose judging the timing of charge of inflators by comparing the number of charged inflators with the number of peak points of furnace pressure, it would have been obvious for one of ordinary skill in the art at the time the

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invention was made to provide the step of judging in the method of Nakasato et al., since the step is intrinsic to the method of Nakasato, and furthermore, the method of controlling the charge of a reactant into a reaction zone based on pressure measurement is conventionally known in the art, as evidenced by Mullarkey. Mullarkey (column 5, lines 23-65; claims 1-13) teaches a method for processing unused ammunition by heating, wherein the charge of ammunition via conveyer 2 is controlled (i.e. started or stopped) by comparing the quantity of charged ammunition to the peak points of furnace pressure (i.e. acoustic shock sensed by explosion detector 66). The ammunition, like an inflator, emits combustion gas upon deactivation via heating to an ignition or operating temperature.

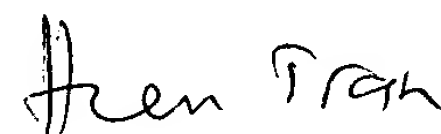
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is 703-305-4951. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer A. Leung 
January 12, 2003



**HIEN TRAN
PRIMARY EXAMINER**